

**EPA Superfund
Record of Decision Amendment:**

**SAUNDERS SUPPLY CO.
EPA ID: VAD003117389
OU 01
CHUCKATUCK, VA
09/27/1996**

RECORD OF DECISION AMENDMENT
SOUNDERS SUPPLY COMPANY

Declaration

Site Name and Location

Saunders Supply Company
Chuckatuck, Virginia

Statement of Basis and Purpose

This decision document revises the Record of Decision (ROD) signed on September 30, 1991 for the Saunders Supply Company Site (Site), in Chuckatuck, Virginia. The revised remedy was chosen in accordance with the requirements of the comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended (CERCLA), 42 U.S.C. § 9601 et seq., and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 C.F.R. Part 300. This decision document explains the factual and legal basis for revising the remedy for this Site. The information supporting this remedial action decision is contained in the Administrative Record for this Site.

The Virginia Department of Environmental Quality concurs with the amended remedy.

Assessment of the Site

Pursuant to duly delegated authority, I hereby determine, pursuant to Section 106 of CERCLA, 42 U.S.C. § 9606, that actual or threatened releases of hazardous substances, pollutants or contaminants from this Site, if not addressed by implementing the response action selected in this Record of Decision Amendment, may present an imminent and substantial endangerment to public health, welfare, or the environment.

Description of the Selected Remedy

This ROD Amendment revises the previously selected remedy by changing the methodology for treatment of contaminated soil and sediment for onsite low temperature thermal desorption and onsite dechlorination, respectively, to offsite incineration. This ROD Amendment will be the final Record of Decision for the Site. Based on the information derived through the Remedial Investigation, the Site soils pose a principal threat to human health.

The amended remedy includes the following major components:

1. Excavation and offsite incineration of the K001 sediments from the wastewater pond and the former earthen separation pond.
2. Excavation and offsite incineration of the Site soils and sediments from the storm sewer.
3. Treatment of the ground water during the dewatering process prior to excavating the soil and that collected in the ground water collection trenches.
4. Removal of the top one inch of the stained areas of the concrete pad, solidification treatment and offsite disposal of the removed material. Removal and onsite disposal of the concrete pad in the area requiring soil excavation.
5. Cleaning and sliplining of the storm sewer.
6. Ground water monitoring.
7. Institutional controls.

Declaration of Statutory Determinations

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial action, and is cost-effective. This remedy utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable, and satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility, or volume as a principal element.

Because this remedy will result in hazardous substances remaining onsite above health-based levels, a review will be conducted within five years after commencement of remedial action to ensure that the remedy continues to provide adequate protection of human health and the environment. Such reviews will be conducted every five years thereafter until EPA determines that the cleanup levels set forth in this ROD have been achieved, or that the hazardous substances remaining at the Site do not prevent unlimited use and unrestricted exposure at the Site.

Thomas C. Voltaggio
Director, Hazardous Waste Management
Region III

Date

DECISION SUMMARY

A. INTRODUCTION

The Saunders Supply Company Site (the site) is located in the village of Chuckatuck, a rural area of Suffolk, Virginia (see Figure 1 - Regional Map). The Site is a former wood treating facility which ceased operating in June 1991. The Saunders Supply Company facility is located in a mixed residential and commercial area. The Kelly Nursery and residence is located immediately north of the facility. A gasoline station and a residential subdivision are located south of the facility. Commercial establishments and residences are located east of the facility and a wooded area is west of the facility, beyond which agricultural activity exists. For more information on the Site location, description, history, enforcement activities, and community participation activities conducted prior to September 1991, refer to Sections A through C of the Record of Decision (ROD) issued on September 30, 1991.

The U.S. Environmental Protection Agency (EPA) is the lead agency for response activities at the Site. The Virginia Department of Environmental Quality ("VDEQ") is the support agency for response activities.

On May 23, 1991, EPA released the original Proposed Plan for the Site, requesting public comment on the alternatives identified at that time to remediate contamination at the Site, as well as the EPA preferred alternative. Based on comments received, EPA, in consultation with VDEQ, selected the remedy to clean up the Site in the ROD dated September 30, 1991. A description of the major components of the remedy is provided in Section C below.

Based on new information obtained during the design of the remedy, EPA is amending the ROD to change the method for treatment of contaminated soil and sediments from onsite low temperature thermal desorption and onsite dechlorination, respectively, to offsite incineration because offsite incineration would have fewer adverse impacts while being comparable in cost to onsite treatment.

B. COMMUNITY PARTICIPATION and INFORMATION AVAILABILITY

The Proposed Plan describing the amended remedy was released to the public for comment on August 4, 1996. This proposed Plan was made available to the community in the information repositories maintained at the EPA Region III Docket Room in Philadelphia and at the Morgan Memorial Library in Suffolk, Virginia. The notice of availability was published in the Virginia Pilot and Suffolk News Herald on August 4, 1996. In addition, a public meeting was held on August 20, 1996 in the Chuckatuck Volunteer Fire Company, 5960 Godwin Boulevard, Suffolk, Virginia. At this meeting, representatives from EPA and the VDEQ answered questions about conditions at the Site and the amended remedial alternative preferred by EPA. The public comment period on the Proposed Plan was held from August 4, 1996, to September 13, 1996. Although the update to the Administrative Record was received at the Repository on August 3, 1996, the update to the Administrative Record was not placed in the file until August 14, 1996, ten days after the planned start of the public comment period. In order to allow at least 30 days for review of the information in the update to Administrative Record, the public comment period was extended ten days from September 3, 1996, to September 13, 1996. A response to the comments received during this period is included in the Responsiveness Summary, which is part of this ROD Amendment. These activities were undertaken by EPA as part of its public participation responsibilities under Section 117(a) of the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA), and Section 300.435(c)(2)(ii) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP).

The Administrative Record for this Site is maintained at the following information repositories:

Morgan Memorial Library
443 West Washington Street
Suffolk, Virginia
Phone#: 804 672-4780

U.S. EPAQ Region III Docket Room
Ms. Anna Butch (3HW14)
841 Chestnut Building
Philadelphia, PA 19107
Phone#: 215 566-3157

The Administrative Record includes all documents upon which the selection of the amended response action is based. In accordance with Section 300.825(a)(2) of the NCP, this ROD Amendment will become part of the Administrative Record.

C. SUMMARY OF ORIGINAL REMEDY

The remedy selected in the September 30, 1991 ROD contained the following major components:

! Excavation, Treatment, and Disposal of Pond Sediment: Excavation, treatment by dechlorination, and offsite disposal of the sediments from the wastewater pond and the former earthen separation pond; these sediments are listed as K001 wastes under the Resource Conservation and Recovery Act, 42 U.S.C. §§ 6901-6992k, ("RCRA").

! Excavation, Treatment, and Disposal of Soil and Sewer Sediments: Excavation, low temperature thermal desorption treatment and offsite disposal of the Site soils and the sediments from the storm sewer.

! Ground Water: Treatment of the ground water during the dewatering process prior to excavating the soil.

! Concrete Pads: Removal of the top one inch of the concrete pads, solidification of the removed material, and offsite disposal of the solidified material and the remainder of the concrete pads.

! Cleaning and Lining of the Storm Sewer: The existing 8-inch concrete storm sewer will be inspected with a closed circuit television camera, cleaned of all debris and sediment, and lined with a flexible high-density polyethylene pipe.

! Ground Water Monitoring: Ground water monitoring will be performed for thirty years to ascertain that the remedy is protective of human health and the environment.

! Institutional Controls: Institutional controls will be implemented to restrict access to the contaminated ground water under the Site and to prevent contaminated ground water from moving offsite. The institutional controls included deed restrictions on the Site to prohibit using either the Columbia aquifer or the Yorktown aquifer as a source of ground water and restrictions on offsite ground water extraction.

D. RATIONALE FOR CHANGING REMEDY SELECTED IN 1991 ROD

Soil and Sediment: Offsite disposal of treated soil was required at the time of the ROD because the relevant Virginia regulations were interpreted by VDEQ to prohibit onsite backfilling of treated soil. Subsequent to issuance of the ROD, VDEQ adopted a new policy which allows onsite disposal of soils containing RCRA-listed hazardous wastes when the soils have been treated to reduce the contaminants to health-based cleanup levels. Since the treatment planned for the Site would achieve these levels, VDEQ concurred with a request by EPA to allow onsite disposal of the treated soil.

As part of the remedial design, EPA performed additional soil sampling as well as treatability studies of the low temperature thermal desorption and dechlorination processes to assure that these processes could achieve the soil and sediment cleanup levels in the ROD and to more accurately determine the cost of treating the soil and sediments. The treatability studies verified that the treatment processes would achieve the cleanup levels. However, the soil sampling data showed that the total amount of soil requiring treatment decreased from the 25,000 tons estimated in the ROD to a new estimated total of 18,000 tons. Since the cost of mobilizing and demobilizing the low temperature thermal desorption treatment equipment is a fixed cost, the decrease in volume resulted in an increase in the cost per unit ton of soil treated.

To ensure that the revised cost was still appropriate, EPA compared the cost of onsite low temperature thermal desorption treatment to that of offsite incineration treatment. At the time the ROD was issued, there were no incinerators permitted to accept the K001 sediments or the soil from the Site because they contain dioxins. Since the ROD was issued, however, several incinerators have been permitted to accept dioxin-containing wastes. With additional incinerators being built, the unit cost per ton of material to be incinerated has also decreased. As a result, the cost of treating the soil and sediments at an offsite incinerator is currently at least comparable to the onsite treatment originally required in the ROD. This is true even though the cost of the ROD remedy is less than originally estimated because soil could be backfilled onsite, thus avoiding the added cost of offsite disposal in a permitted RCRA landfill.

Concrete Pad: It was assumed in the original ROD that all of the soil beneath the concrete pad in the former wood treating area exceeded the Site-specific cleanup levels and, as such, all of the pad had to be removed. However, soil sampling during the design phase indicated that only certain areas under that concrete pad

required excavation and treatment. Since not all of the soil required excavation and treatment, not all of the concrete pad has to be removed. In addition, rather than use an offsite facility to dispose of those portions of the concrete pad which have to be removed, the concrete will be decontaminated and disposed of onsite as backfill in the wastewater pond area.

Groundwater: EPA continued to monitor the ground water at the Site during the remedial design. As a result of this monitoring, EPA detected migration of Site-related contaminants Towards Godwins Millpond, a nearby water supply reservoir. "Specifically, Pentachlorophenol ("PCP") was detected in monitoring wells MW-9S and MW-11S at maximum levels of 13 ppb and 41.6 ppb, respectively (See Table 1). The Maximum Contaminant Levels (MCLs) for PCP established under the Safe Drinking Water Act, 42 U.S.C. §§300f-300j-26, for public drinking water supply systems is 1 ppb. Because the concentrations detected in these monitoring wells exceed the MCL, EPA is using its emergency response authority to construct a system to collect and treat the ground water to prevent further migration of the contamination. Since the source of the contamination will be removed through the actions required under the ROD, EPA currently anticipates that the collection and treatment system will be operated for less than ten years. Because EPA's emergency response authorities, in general, appropriate for short-term operation of the ground water collection and treatment system, EPA is proposing that the continued operation and maintenance of this system be included as part of this amended ROD remedy.

TABLE 1

Monitoring Well	1989-1990	3/95	9/95	1/96	5/96
MW-9S	ND	0.96ppb	13.0ppb	BDL	BDL
MW-11S	ND	5.80ppb	5.2ppb	14.1/15.7ppb	41.4/36.5ppb

ND-not detected

BDL-below detection level

E. DESCRIPTION OF REVISED REMEDY

! Excavation, Treatment, and Disposal of Pond Sediments: Excavation and offsite incineration and disposal of K001 sediments from the wastewater pond and the former earthen separation pond.

! Excavation, Treatment, and Disposal of Soil and Sewer Sediments: Excavation and offsite incineration and disposal of the Site soils and the sediments from the storm sewer.

! Ground Water: Operation and maintenance of the ground water collection and treatment system constructed under EPA's emergency response authority to prevent further migration of Site contaminants; includes treatment of the ground water collected during the dewatering process prior to excavating the soil. Treatment may be either onsite or offsite.

! Concrete Pad: Removal of the top one inch of the stained areas of the concrete pad, solidification and offsite disposal of the removal material, and removal of the concrete pad in the area requiring soil excavation with onsite disposal.

! Cleaning and Lining of the Storm Sewer: The existing 8-inch concrete storm sewer will be cleaned of all debris and sediment and lined with a flexible high-density polyethylene pipe (the sewer was inspected with a closed circuit television camera during the remedial design).

! Ground Water Monitoring: Ground water monitoring will be performed for thirty years to ascertain that the remedy is protective of human health and the environment.

! Institutional Controls: Institutional controls will be implemented to restrict access to the contaminated ground water under the Site and to prevent movement of the PCP offsite. The institutional controls included deed restrictions on the Site to prohibit using either the Columbia aquifer or the Yorktown aquifer as a source of ground water and restrictions on offsite ground water extraction.

F. EVALUATION OF ALTERNATIVES

The following summary discusses the performance of the amended cleanup plan in terms of nine evaluation criteria, noting how it compares to the originally selected remedy. This summary assumes the original remedy would allow onsite disposal of treated soil and sewer sediments. The nine criteria can be categorized into three groups: threshold criteria, primary balancing criteria, and modifying criteria. The criteria associated with each category are as follows:

THRESHOLD CRITERIA

! Overall protection of human health and the environment;

! Compliance with applicable or relevant and appropriate requirements ("ARARs");

PRIMARY BALANCING CRITERIA

! Long-term effectiveness

! Reduction of toxicity, mobility, or volume through treatment;

! Short-term effectiveness;

! Implementability;

! Cost;

MODIFYING CRITERIA

! Community acceptance;

! State acceptance.

These evaluation criteria relate directly to the requirements of Section 121 of CERCLA, 42 U.S.C. § 9621, which are used to determine the overall feasibility and acceptability of the remedy. Threshold criteria must be satisfied in order for a remedy to be eligible for selection. Primary balancing criteria are used to weigh major trade-offs between remedies. Support agency and community acceptance are modifying criteria which are taken into account after public comment is received on the Proposed Plan.

Overall Protection of Human Health and the Environment

Soil and Sediment: Both the original and the amended cleanup plan provide overall protection of human health and the environment. Under both plans, all areas of the Site which exceed the Site-specific cleanup levels will be excavated and treated, thereby eliminating all unacceptable risks associated with direct contact with the soil.

Ground Water: Although the original cleanup plan was protective of human health and the environment with respect to ground water at the time it was selected, it is no longer protective. New information has demonstrated that contaminants are now migrating through the ground water aquifer and must be addressed to achieve overall protection. EPA is using its emergency response authority to address this need during the short-term. The amended cleanup plan provides for operation of the system for the long-term. The amended cleanup plan provides for operation of the system for the long-term and is, therefore, fully protective of human health and the environment.

Compliance with ARARs

Soil and Sediment: Treatment and disposal of the K001 sediments will meet all ARAR treating the sediments at an incinerator permitted to accept this material. The key ARAR associated with contaminated soil at the Site is the RCRA Land Disposal Restriction requirements (see 40 C.F.R. Part 268) that limit the type and concentration of hazardous wastes that can be land disposed. These requirements are applicable because hazardous wastes regulated under RCRA are present at the Site and are being placed in a land disposal unit or facility. Virginia also has similar land disposal restrictions under its hazardous waste management regulation. Although the Site soils contain f032 and F035 listed wastes, RCRA Land Disposal Restrictions have not been promulgated for these wastes. The original cleanup plan complied with all ARARs, including the RCRA Land Disposal Restrictions and the Virginia requirements, including the disposal of the treated soil. The revised remedy will also comply with all ARARs by utilizing only an incinerator permitted to accept such contaminants and one that is in compliance with its permit. Transportation to the incinerator will be in accordance with RCRA regulations at 40 C.F.R. Parts 262 and 263, the Department of Transportation regulations of Title 49 of the Code of Federal Regulations, and Part 7 of the Virginia Hazardous Waste Management Regulations.

Ground Water: Treatment of the collected ground water under both the original and the amended remedy may either be accomplished at an onsite treatment system or at an offsite facility. In order to meet all ARARs, ground water being treated at an offsite facility will meet the facility's pretreatment requirements while treatment at an onsite system will meet the chemical-specific discharge limits established by VDEQ under the Virginia Pollutant Discharge Elimination System regulations. Onsite treatment of ground water may result in the generation of sludges or other metal-containing waste. These wastes will be evaluated in accordance with the hazardous waste identification requirements and disposed of as required under the Virginia Hazardous Waste Management Regulations.

Long-Term Effectiveness and Permanence

Soil and Sediment: Both plans would remove and destroy PCP in the soil to levels which would result in acceptable risks to human health from direct contact. However, the amended plan provides a greater degree of long-term effectiveness and permanence than the original cleanup plan by providing a higher level of treatment (incineration) and offsite disposal of the treated soil. In contrast, the original plan provides for treatment of the soil to the Site-specific cleanup level of 1.46 ppm and onsite disposal. Although the treated soil would not pose any unacceptable risks to human health through direct contact, low levels of contamination would remain at the Site.

Ground Water: As indicated above, the original remedy does not provide a ground water remedy that would be effective in the long-term or permanent given the new information showing migration of Site contaminants in the ground water. The amended cleanup plan, however, does provide a remedy that is protective in the long-term and permanent by collecting contaminated ground water and treating it (either onsite or offsite) to health-based cleanup levels. The system will be maintained and operated until the ground water cleanup levels have been achieved.

Short-Term Effectiveness

Soil and Sediment: Overall, the amended cleanup plan presents fewer short-term risks to the onsite workers and the surrounding community than the original remedy. Although the amended cleanup plan requires additional truck traffic, it will take much less time to implement (2 months rather than 12 months) and does not include the disruptions associated with the onsite soil treatment (e.g., staging of the soil prior to and after treatment, and the noise associated with the treatment system itself).

Ground Water: The short-term risks associated with operation and maintenance of the ground water collection and treatment system are expected to be minimal. Proper health and safety practices will be implemented.

Reduction of Toxicity, Mobility, or Volume through Treatment

Soil and Sediment: The amended cleanup plan results in a greater reduction in toxicity, mobility, and volume of Site contaminants through treatment than the original plan because incineration, through the use of higher temperatures, will remove and destroy more of the contaminants in the soil than will low temperature thermal desorption.

Ground Water: The amended cleanup plan also provides a higher degree of contaminant reduction by collecting and treating the ground water.

Implementability

Soil and Sediment: Overall, both the original cleanup plan and the amended plan can be readily implemented, however, the amended plan is easier to implement because onsite treatment of soils is not required. Regarding the original cleanup plan, bench-scale treatability testing conducted during the pre-design phase has shown that low temperature thermal desorption can meet the health-based cleanup levels for organics set forth in the ROD. If treatment standards for F032 and F035 listed wastes are promulgated prior to cleanup at the Site, the contaminated soil would have to be treated to these new levels. Although low temperature thermal desorption is likely to meet the new levels for organic contaminants, treatment levels established for arsenic could be a problem because arsenic is not effectively removed in the low temperature thermal desorption process.

Ground Water: Technologies to collect and treat the ground water are readily available. Operation and maintenance of the treatment system can also be readily implemented. The particular technologies to be used will be determined as part of the emergency response action implemented by EPA.

Cost

Soil and Sediment: The cost to treat and dispose of an estimated 18,000 tons of contaminated soil and sediments using offsite incineration is approximately \$13,883,200. As determined through a treatability study, the cost to treat the same volume using onsite low temperature thermal desorption and onsite disposal of the treated soil is approximately \$14,560,000.

Ground Water: the estimated cost to operate and maintain the ground water collection and treatment system has not been determined at this time.

State Acceptance

VDEQ served as the lead agency for the Commonwealth of Virginia for the CERCLA response activities at the Saunders Supply Company Site. VDEQ has reviewed the remedial alternatives under consideration for the Site and has provided EPA with technical and amended ROD and concurs with the amendment as discussed below.

Community Acceptance

The Proposed Plan to Amend the ROD was released on August 4, 1996 to solicit public comment regarding the proposed revised cleanup plan. At that time, a 30-day comment period was opened. A public meeting on the

Proposed Plan was held on August 20, 1996 at the Chuckatuck Volunteer Fire Company. Comments raised at the public meeting and during the public comment period are summarized in the Responsiveness Summary which is included in the ROD Amendment. None of the comments made at the public meeting were in opposition to EPA's proposal to amend the ROD for this Site. Of the written comments received, two asked that EPA not change the remedy for the Site.

G. Amended Remedy

Following review and consideration of the information in the Administrative Record file, the requirements of CERCLA, the NCP, and public comment, EPA has selected the revised cleanup plan as the selected remedy. It provides the best balance of trade-offs with respect to the criteria evaluated above. Specifically, the selected remedy, which satisfies Section 121 of CERCLA, 42 U.S.C. § 9621, includes:

!Excavation, Treatment, and Disposal of Pond Sediments: Excavation and offsite incineration and disposal of the K001 sediments from the wastewater pond and the former earthen separation pond.

!Excavation, Treatment and Disposal of Soil and Sewer Sediments: Excavation and offsite incineration treatment and disposal of the Site soils and the sediment from the storm sewer.

!Ground Water: Operation and maintenance of the downgradient ground water collection and treatment system constructed under EPA's emergency response authority to prevent further migration of Site contaminants; includes treatment of the ground water collected during the dewatering process prior to excavating the soil. Treatment may be either onsite or offsite.

!Concrete Pad: Removal of the top one inch of the stained areas of the concrete pad, solidification treatment and offsite disposal of the removed material, and removal of the concrete pad in the area requiring soil excavation with onsite disposal.

!Cleaning and Lining of the Storm Sewer: The existing 8-inch concrete storm sewer will be cleaned of all debris and sediment and lined with a flexible high-density polyethylene pipe (the sewer was inspected with a closed circuit television camera during the remedial design).

!Ground Water Monitoring: Ground water monitoring will be performed for thirty years to ascertain that the remedy is protective of human health and the environment.

!Institutional Controls: Institutional controls will be implemented to restrict access to the contaminated ground water under the Site and to prevent movement of the PCP offsite. The institutional controls include deed restrictions on the Site to prohibit using either the Columbia aquifer or the Yorktown aquifer as a source of ground water and restrictions on offsite ground water extraction.

Performance Standards

The selected remedy addresses all of the contaminated media at the Site. By instituting all of these components, the Site risks will be reduced to within EPA's acceptable risk range. The performance standards for the major components of the selected remedy include the following:

!To reduce the risk to human health and the environment via the exposure pathways attributed to the contaminated soil and storm sewer sediments, approximately 18,000 tons of surface and subsurface soils exceeding the soil cleanup level of 1.46 mg/kg of PCP (corresponding to a 10⁻⁶ risk level) and the sediments from the storm sewer along Godwin Boulevard shall be excavated, transported offsite, and treated by incineration. The storm sewer was inspected during the design phase with a closed circuit television camera to identify any obstructions. The sewer shall be thoroughly cleaned to remove all the sediments.

!To reduce the risk to human health and the environment via exposure pathways attributed to the K001 sediments, approximately 700 tons of sediment from the wastewater pond and the former earthen separation pond shall be excavated, transported offsite, and treated by incineration. The wastewater pond shall be filled with decontaminated concrete from the concrete pad, and both areas shall be covered with clean soil and contoured to promote run-off.

! To reduce the risk to human health and the environment via the exposure pathways attributed to the water in the wastewater pond, the pond shall be drained and the water treated prior to discharge. The water shall either be treated onsite, and discharged to Chuckatuck Creek or treated and discharged offsite. If treated and discharged offsite, the Chuckatuck Creek shall meet VPDES permit limits. If treated and discharged offsite, the treatment shall meet the levels as set by the receiving facility.

! To reduce the risk to human health and the environment attributed to the concrete pads, the stained areas of the concrete pads shall be scarified and disposed of offsite and the concrete pad in the area requiring soil excavation shall be removed and disposed of onsite. If the removed material is determined to be a RCRA characteristic hazardous waste using the Toxicity Characteristic Leaching Procedure (TCLP), the material shall be solidified prior to offsite disposal in a landfill as directed by Part 8 of the VSWMR. During the scarification process, the following dust control techniques shall be implemented to control the possible release of contaminated material: pre-wetting the concrete, equipping the scabbler with a sprayer, and using a vacuum attachment for dust collection. The portion of the concrete pads which must be removed to allow for excavation of the soil beneath the pad shall be cleaned of any residual and disposed in the wastewater pond.

! To reduce the risk to human health and the environment attributed to the existing 8 inch concrete storm sewer, the sewer shall be sliplined with a flexible high-density polyethylene pipe of a slightly smaller diameter. The service connections shall then be reconnected to the new liner. The annulus between the old and the new pipeline may be filled with grout.

! To ascertain that the remedy is protective of human health and the environment, long-term ground water monitoring shall be performed for thirty years. The ground water monitoring shall include sampling for PCP, arsenic, and chromium which were the only contaminants associated with the operations at the Site detected at elevated levels in the ground water. EPA will determine if the cleanup level of 1 ppb of PCP, the proposed MCL, is being met throughout the plume in both the Columbia aquifer and the Yorktown aquifer. The purpose of ground water monitoring under the original remedy was to determine if the PCP cleanup level was being met at the Site boundary because the soil cleanup level for PCP might allow for partitioning to ground water levels exceeding the cleanup level for ground water. Since the amended remedy does not include backfilling of treated soil, the ground water monitoring will be performed to determine if the cleanup level is being met throughout the plume.

! To restrict access to the contaminated ground water under the Site and to prevent accelerated movement of the PCP offsite, institutional controls shall be implemented. The institutional controls include deed restrictions on the Site to prohibit using either the Columbia aquifer or the Yorktown aquifer as a source of ground water and restrictions on offsite ground water extraction which might cause additional movement of contaminated ground water.

EPA may modify or refine the selected remedy during the remedial design and construction. Such modifications or refinements, if any, would generally reflect results of the engineering design process.

H. DOCUMENTATION OF SIGNIFICANT CHANGES

The Proposed Plan, which identified the revised cleanup plan as EPA's preferred alternative for the Site, was released for public comment on August 4, 1996. EPA has reviewed the verbal comments expressed at the August 20, 1996 meeting with the city of Suffolk Department of Public Utilities and at the August 20, 1996 public meeting and the written comments submitted to EPA during the public comment period which ended September 13, 1996 and determined that no significant change to the remedy identified in the Proposed Plan is necessary.

SAUNDERS SUPPLY CO. SITE
CHUCKATUCK, VIRGINIA

RESPONSIVENESS SUMMARY
September 1996

This Responsiveness Summary documents public concerns and comments expressed during the public comment period. The Summary also provides EPA's responses to those comments. The information is organized as follows:

- ! Overview
- ! Summary of Comments and Questions Expressed During Public Meeting and EPA Responses
- ! Summary of Written Comments Submitted During Public Comment Period and EPA Responses

I. Overview

The public comment period for the amended remedy for the Saunders Supply Co. Site (Site) began on August 4, 1996 and was originally scheduled to end on September 3, 1996. Although the update to the Administrative Record was received at the Site Repository in the Morgan Memorial Library on August 3, 1996, the update to the Administrative Record was not placed in the file until August 14, 1996, ten days after the planned start of the public comment period. In order to allow at least 30 days for review of the information in the update to the Administrative Record, the public comment period was extended ten days from September 3, 1996, to September 13, 1996. To facilitate commenting, EPA held a public meeting on August 20, 1996 at the Chuckatuck Volunteer Fire Company located at 5960 Godwin Boulevard in Suffolk, Virginia.

At the August 20, 1996 public meeting, EPA presented the Proposed Plan to amend the remedy for the Site from onsite thermal desorption of the soil and onsite dechlorination of the sediments to offsite incineration of both the soil and sediments. EPA explained that, since the time of the original Record of Decision (ROD), several new incinerators have been permitted that can now accept the soil and sediments from the Site. Offsite incineration has a much shorter construction period so the impacts to the two businesses impacted by the cleanup will be greatly reduced. Also, offsite incineration is comparable in cost to the onsite treatment and resolves an issue associated with onsite disposal of soil which has been treated to remove pentachlorophenol (PCP) but may still contain levels of arsenic which exceed the Site-specific cleanup level. Treated sediments area a listed waste (K001 waste) under the Resource, Conservation and Recovery Act (RCRA). EPA also explained that ground water contamination had begun migrating from the Site toward Godwins Millpond. Because of this migration, EPA will utilize its removal authority to collect, treat, and dispose of the contaminated ground water.

The August 20, 1996 public meeting also provided the public an opportunity to ask questions and express opinions and concerns. The comments and questions expressed during that meeting and EPA's responses to those comments and questions are described in the following summary.

II. Summary of Comments and Questions Expressed During Public Meeting and EPA's Responses

Questions presented at the August 20, 1996 public meeting are summarized briefly in this section and are grouped according to subject. The EPA response follows each question presented.

1. A citizen asked for an explanation of why PCP levels at monitoring well MW-9S varied over time, from no detection 1988-1989, to 0.96 parts per billion (ppb) in March 1995, to 13 ppb in September 1995, to below detection levels in 1996.

EPA Response: The variation in PCP levels at monitoring well MW-9S may be more closely associated with the amount of rainfall prior to the sampling events than with the movement of PCP-contaminated water in the aquifer (called a "plume"). The highest level of contamination detected, 13 ppb, was from the sampling event which occurred toward the end of the 1994-1995 drought. The higher level of PCP may be due to the lack of water in the aquifer. The best indication of the movement of the plume in the aquifer is the level of PCP detected at monitoring well MW-11S. This well is more downgradient from the source of contamination than MW-9S. The levels of contamination found at MW-11S have been constantly increasing since 1991, indicating movement of the plume away from the Site. MW-9S is more side-gradient than down gradient from the source of contamination, and therefore not as good an indicator of the movement of the plume.

2. A citizen asked what caused the ground water plume to start migrating.

EPA Response: The Saunders Supply Company installed several wells on the Site many years ago. One well, the owner's recovery well, constructed through an impermeable layer of clay that separates the upper and lower aquifers. This well was routinely pumped out, with the recovered water being used in a wood treating process. It is thought that this well was acting as a sump. The PCP would flow to that area because the break in the clay layer was a low point and the act of pumping would draw more PCP to the area. At the beginning of the design phase, EPA removed all of the wells installed by Saunders Supply Co., including the owner's recovery well. With the owner's recovery well plugged, the PCP migrated downgradient, away from the Site.

3. A citizen asked if EPA would try to capture the PCP which has already migrated beyond the Site.

EPA Response: Yes. At the time of the Proposed Plan, EPA had planned to utilize its removal authority to install one trench at the property line of the Saunders Supply Co. to collect and treat PCP before it migrated offsite. Prior to the public meeting, EPA held a meeting with the city of Suffolk Department of Public Utilities. At this meeting, the Department of Public Utilities expressed concern that the PCP which had already migrated may impact Godwins Millpond. They recommended that EPA install a second trench further downgradients from the Site, as close as possible to Godwins Millpond. Based on the verbal and written comments made by the department and the citizen who asked this question, EPA decided to construct two trenches, including one trench as close as possible to Godwins Millpond. The trench closest to Godwins Millpond is intended to capture as much as possible of the PCP that has already migrated beyond the Saunders Supply Company property.

4. A citizen asked EPA to explain the movement of PCP through the aquifer.

EPA Response: PCP is approximately two and a half heavier than water. Under the force of gravity, PCP tends to migrate down through the aquifer until it encounters an impermeable layer. In this case, PCP migrated through the aquifer until it encountered the clay layer approximately 15 to 20 feet below the surface. At that point, the PCP migrated along the top of the clay layer under the force of gravity. Because it is more dense than water, PCP will tend to pool in any low points or depressions in the clay layer. PCP strongly adheres to soils; the extent of sorption depends on organic content, pH, and the type of soil involved. The amount of PCP that will adhere to its soil directly proportional to the amount of clay and organic material in the soil matrix. Since the soil at the Site is sandy, adsorption does not occur at a high rate.

5. A citizen asked if any cleanup has been performed at the Site.

EPA Response: Yes. Following an investigation by the Virginia State Water Control Board, the Saunders Supply Company was required to excavate some contaminated soil around the conical burner area. They disposed of the contaminated soil into the John Holland landfill. Since the Site was placed onto the National Priorities List, EPA conducted a full investigation of the remaining areas of contamination.

6. A citizen asked if EPA knew where the edge of the PCP contamination is located.

EPA Response: At this time, EPA has collected ground water samples which showed PCP contamination at MW-11S but not at MW-19D. We have also collected additional "screening" samples using a geoprobe. The screening results did show some PCP present downgradient of MW-11S at levels below the cleanup level of 1 ppb. From this, it appears that the edge of the PCP contamination has passed MW-11S.

7. A citizen asked if the ground water collection trenches will be constructed at the same time as the excavation of soil.

EPA Response: No. Because the purpose of the trenches is to prevent more PCP from migrating from the Site and to protect Godwins Millpond, EPA intends to complete the design and installation of the trenches before starting the soil excavation. Installation of the ground water collection trenches should be completed by November 30, 1996.

8. A citizen asked if EPA has implemented this type of soil remediation at other Sites.

EPA Responses: Yes, it has. In the spring of 1996, approximately 15,000 tons of contaminated soil was excavated from the Greenwood Chemical Superfund Site in Albermarle County, Virginia, transported by truck to a railroad siding where it was placed on rail cars, shipped to Tooele County, Utah, and incinerated at the Clive Incinerator. In addition, many other sites across the country have required excavation and offsite treatment of contaminated soil and sediment.

9. A citizen asked where the soil from the Site will be incinerated.

EPA Response: The exact location will be determined in the future. As with the Greenwood Chemical Site, EPA will utilize the services and expertise of the U.S. Army Corps of Engineers to advertise for bids, awards the contract, and perform construction management services during construction. The decision as to which incinerator will be used will be made after the incinerator proposed by the contractor to ensure that it is permitted to accept the contaminated soil and sediments from the Site and that it is in compliance with its permit.

10. A citizen asked how much money has been spent to date on this Site.

EPA Response: Although EPA maintains cost accounting information on every Superfund site, EPA did not anticipate this question and did not have the information available for the public meeting. EPA did however, agree to obtain the information and submit it to everyone on the sign-in sheet for the meeting.

11. A citizen asked if any restrictions will be placed on either the Saunders Supply Company property or the Kelly Nursery property.

EPA Response: After all of the contaminated soil is excavated and backfilled, there would be no restrictions placed on the use of either property. However, restrictions on the use of the ground water is necessary. On the Saunders property, the ground water will not be able to be used for any purpose. On the Kelly property, a restriction will be required to prohibit pumping which may cause further migration of site contamination beyond the boundary of the Site.

12. A citizen asked how many trucks would be used to transport the soil off of the Site.

EPA Response: At the Greenwood Chemical Site referred to previously, 16 truckloads per day were taken out of the site during the initial phase of the project while the truck traffic was restricted to the hours of 9:00 AM to 2:00 PM (because of safety concerns associated with school busses on the narrow roads in the area of the site). After the school year ended, the number of truckloads increased to 20 per day. The experience at the Saunders Supply Company Site may be similar to that at the Greenwood Chemical Site.

13. A citizen raised a concern that the truck traffic coming out of the Site might interfere with the operation of the Chuckatuck Volunteer Fire Company located directly across Godwins Boulevard from the Site.

EPA Response: EPA and the U.S. Army Corps of Engineers will work with the Chuckatuck Volunteer Fire Company to make any revisions/restrictions necessary in the design documents to make sure that Site operations do not interfere with the operation of the Volunteer Fire Company, especially during periods when the fire trucks are in use.

III. Summary of Written Comments Submitted During Public Comment Period and EPA's Responses

1. Two commenters asked that EPA not change the remedy selected in the 1991 ROD because the thermal desorption/dechlorination processes can meet the cleanup level for PCP at a lower cost than offsite incineration.

EPA Response: First, EPA uses nine criteria to evaluate different alternatives, with cost being one of the nine. As indicated previously, offsite incineration is rated higher based on all of the nine criteria than the original remedy selected in the 1991 ROD, especially in view of off-site incineration's long-term effectiveness, short-term effectiveness, reduction of toxicity, mobility and volume through treatment, implementability, and community acceptance. Offsite incineration's superiority is primarily due to (i) higher temperatures destroying all of the organic contamination, (ii) offsite disposal of the treated material, (iii) work being completed in much less time than with onsite treatment, and (iv) minimal operations taking place on the Site. Second, offsite incineration also resolves the issue of whether the thermally treated soil meets the cleanup level for arsenic to permit onsite disposal. All soil that did not meet the arsenic cleanup level under the original remedy would have to be disposed of offsite in a landfill, this resulting in additional costs beyond that in the original cost estimate. The soil under the concrete pad is not expected to contain arsenic since the concrete pad was placed before Saunders Supply Company initiated the copper, chromium, and arsenic wood treatment process. In order to meet the arsenic cleanup level under the original remedy, EPA planned to blend the treated soil from those areas which contained arsenic contamination with treated soil from under the concrete pad (which did not contain arsenic.) During design we eliminated most of the soil under the concrete pad from requiring treatment because the soil does not exceed any of the site-specific cleanup levels. Therefore, most of the soil to be treated now is contaminated with arsenic and, as such, is not available for blending.

2. Two commenters requested that EPA place two ground water collection trenches as

part of the work performed under the removal authority.

EPA Response: EPA has decided to install two ground water collection trenches--one at the Saunders Supply Company property boundary and another closer to Godwins Millpond. EPA has decided to do so in response to these comments, even though the installation of the ground water trenches was not part of the Proposed Plan on which EPA was requesting comment.